



November 9, 2001

Dear Stakeholder:

The Rocky Flats Cleanup Agreement (RFCA) Stakeholder Focus Group will meet at the Broomfield Municipal Center at One DesCombes Drive on November 14, 2001 from 3:30 to 6:30 p.m.

The agenda for the November 14, 2001 meeting is enclosed (Attachment A). We will discuss the following topics:

- Task 3 Peer Review and Wind Tunnel Technical Review - update
- October 30, 2001 Meeting With the Principals
 - Feedback From the Principals
 - How the Meeting is Affecting the RSALs Project
- Feedback From the Focus Group members
- Path Forward and Schedule for the RSALs Project
- Task 3 Report - Q&A on Draft Report
- Continuing the Policy Discussion - Topics and Schedule

Attachment B is a letter from Joe Legare, U.S. Department of Energy, regarding the disruption of milestones which might occur in normal agency / DOE processes.

The Rocky Flats Coalition of Local Governments sponsored a meeting on Health Effects of Low-level Radiation on October 1, 2001. A summary page for that workshop is Attachment C.

Reed supplied a paper (Attachment D) of stakeholders questions for the Wind Tunnel reports technical review.

If you need additional information to prepare you for the Focus Group discussion on November 14, 2001, please contact Christine Bennett of AlphaTRAC, Inc. at 303 428-5670 (cbennett@alphatrac.com). Christine will help to find the appropriate resource for you.

You may call either Christine or me if you have any questions, comments, or suggestions concerning the RFCA Stakeholder Focus Group or the upcoming meeting.

Sincerely,

C. Reed Hodgins, CCM
Facilitator / Process Manager

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE



ADMIN RECORD

SW-A-004410

**RFCA Stakeholder Focus Group
Attachment A**

Title: Agenda for November 14, 2001 Focus Group Meeting

Date: November 9, 2001

Author: C. Reed Hodgins
AlphaTRAC, Inc.

Phone Number: (303) 428-5670

Email Address: cbennett@alphatrac.com

RFCA Stakeholder Focus Group Meeting Agenda

When: November 14, 2001 3:30 - 6:30 p.m.

Where: Broomfield Municipal Hall, Bal Swan and Zang's
Spur Rooms

- 3:30-3:40 Agenda Review, Objectives for this Meeting
- 3:40-4:00 Task 3 Peer Review and Wind Tunnel Technical Review -
update
- 4:00-4:15 October 30, 2001 Meeting With the Principals
 - Feedback From the Principals
 - How the Meeting is Affecting the RSALs Project
 - Feedback From the Focus Group members
- 4:15-4:30 Path Forward and Schedule for the RSALs Project
- 4:30-5:00 Task 3 Report - Q&A on Draft Report
- 5:00-5:10 Break
- 5:00-5:45 Task 3 Report - Q&A on Draft Report (Cont.)
- 5:45-6:25 Continuing the Policy Discussion - Topics and Schedule
- 6:25-6:30 Review Meeting
- 6:30 Adjourn

RFCA Stakeholder Focus Group
Attachment B

Title: Letter from Joe Legare regarding DOE's milestones

Date: October 11, 2001

Phone Number: (303) 966-5918

Email Address: joe.legare@rf.doe.gov

**Department of Energy**

ROCKY FLATS FIELD OFFICE
10808 HIGHWAY 93, UNIT A
GOLDEN, COLORADO 80403-8200

RFA 4.3.1.2
Milestones/D.L.K.H.
Correspondence

OCT 11 2001

Mr. Steven Gunderson
Rocky Flats Cleanup Agreement Project Coordinator
Colorado Department of Public Health and Environment
4300 Cherry Creek Drive South
Denver, Colorado 80222-1530

Mr. Timothy Rehder
Rocky Flats Team Lead
U.S. Environmental Protection Agency, Region VIII
999 18th Street, Suite 500, EPR-FT
Denver, Colorado 80202-2466

Dear Gentlemen:

The tragic events of September 11 and their aftermath have affected the entire country and disrupted the normal flow of operations of people and companies across the nation. Rocky Flats' operations are no exception. The disruption to our operations may affect our ability to meet milestones. I am requesting that we work together during the next several weeks, using the RFCA consultative process, to assess the impact of these recent events on Rocky Flats' operations and on the viability of RFETS milestones.

Sincerely,

A handwritten signature in cursive script, reading "Joseph A. Legare".

Joseph A. Legare
Assistant Manager
for Environment and Stewardship

cc
Barbara Mazurowski, RFFO
Alan Parker, K-H
Marc Jones, EM-33

**RFCA Stakeholder Focus Group
Attachment C**

Title: RFCLOG Health Effects Workshop Notes

Date: October, 2001

Author: Melissa Anderson
Rocky Flats Coalition of Local Governments

Phone Number: (303) 412-1200

Email Address: manderson@rfclog.org

KEY POINTS FROM THE COALITION HEALTH EFFECTS WORKSHOP (10/01/01)

1. Guidance for setting soil action levels
 - a) put risk in perspective
 - b) try to predict only to next few generations and not hundreds or thousands of years out
2. At low doses, models for low exposure can't be proven
 - a) too much uncertainty and error
 - b) linear no-threshold model used because (1) easier to use than other models, (2) no proof exists that it is wrong, (3) conservative
3. Inhalation of plutonium causes greater risk than ingestion per unit intake, but if more plutonium is ingested, then ingestion could cause greater risk
4. Background radiation in Front Range cities ~500 mrem/yr
5. All epidemiological studies are flawed because of uncertainties and confounding factors and therefore cannot be used to exactly determine the health effects from exposure to low-level radiation. Sources of uncertainty include:
 - a) dosimetric uncertainty
 - b) statistical uncertainty
 - c) bias and confounding factors
 - d) data uncertainty
 - e) transfer of risk between populations
 - f) modifying factors
 - g) mechanistic uncertainty
6. Pu – alpha emitter (internal), Am – gamma emitter (external)
 - a) internal radiation – dose is non-uniform over organs, dose accumulates over time
 - b) external radiation – dose is uniform over all organs, exposure and dose occur at same time
7. Errors exist in estimating both risk and dose – the smaller the number, the higher the uncertainty therefore “predicting the health effects of 25 mrem/yr is an act of faith”¹
8. “No scientific basis that one speck of plutonium in your lungs will cause cancer”¹
9. Risk of cellular damage from radiation decreases with age – prepubescent at highest risk
10. Primary cellular target of radiation is DNA – damage from low LET radiation (beta and gamma emitters) is more repairable than that from high LET radiation (alpha and neutron emitters)
11. Cancer risk is driving factor in radiological protection, not genetic risk (genetic risk appears lower)
12. Five dose-response models exist
 - a) linear no-threshold – any radiation dose results in damage (may underestimate risk associated with high LET radiation therefore use quality factors for high LET radiation to take this uncertainty into account)
 - b) linear threshold – body can tolerate a dose of radiation below threshold with no ill effects
 - c) hormesis – low doses of radiation may actually be beneficial (not widely accepted)
 - d) supralinear – assumes damage per unit radiation is higher at low doses than at high doses
 - e) sublinear – assumes damage per unit radiation is lower at low doses than at high doses
13. New ICRP model shows decreased dose to workers from exposure, therefore decreased risk

¹ Quote from Dr. Raymond Guilmette during the Round Robin portion of the Health Effects Workshop.

14. 4 – 5 years from now, more studies will be released on the health effects of exposure to low-level radiation, which will likely result in slightly more conservative dose estimates than those currently used
15. Form of Pu determines form of Am (i.e. if Pu is insoluble, Am will be insoluble)
16. Continuous studies on Russian workers from Mayak (Russian plutonium production plant)
 - a) 19,000 workers – many received very high doses of Pu (body burdens up to 30 kBq, or 8×10^5 pCi), approximately 5000 had died by 1994
 - b) although many were smokers and many died from old age, cancer mortality rates were elevated relative to general Russian population
 - c) dosimetry based largely on autopsy data – Pu induced tumors are generally lower in lung than tumors caused by cigarette smoking

RFCA Stakeholder Focus Group Attachment D

Title: RFCA Stakeholder Questions for the Technical
Review of the Wind Tunnel reports

Date: October 17, 2001

Phone Number: (303) 428-5670

Email Address: cbennett@alphatrac.com

Rocky Flats Cleanup Agreement Stakeholder Focus Group

Wind Tunnel-Based Characterization of Wind Resuspension for Development of Radioactive Soil Action Levels at Rocky Flats

Technical Review

PRIMARY EVALUATIONS TO BE PERFORMED

The Technical Reviewers should conduct the following two evaluations of the Wind Tunnel-Based Characterization of Wind Resuspension for Development of Radioactive Soil Action Levels at Rocky Flats:

- A. Evaluate the appropriateness of the wind tunnel technology used in studies at Rocky Flats for developing wind resuspension values to be used in establishing Radioactive Soil Action Levels at Rocky Flats.
- B. Evaluate if the wind tunnel results are being properly used in developing input values for application in the selected dose (RESRAD) and risk (RAGS) models for establishing Radioactive Soil Action Levels at Rocky Flats.

ADDITIONAL QUESTIONS TO BE CONSIDERED

In conducting their primary evaluations, the Technical Reviewers should, where possible, consider the following additional specific questions that have been raised by members of the Rocky Flats Cleanup Agreement Stakeholder Focus Group:

1. Has this equipment been thoroughly tested for operations like those for which it is being used at Rocky Flats? Is the review of sufficient quality and thoroughness to evaluate the applicability of the approach to the problem at Rocky Flats? Does

Technical Review: Wind Tunnel-Based Characterization of Wind Resuspension for Development of Radioactive Soil Action Levels at Rocky Flats

the review show that the wind tunnel approach is appropriate and adequate for this purpose?

2. Is the pitot tube methodology employed in the wind tunnel adequate for characterizing the wind profile in the wind tunnel while it is operating?
3. Is the wind tunnel working section long enough so that the desired wind conditions can develop and remain stable for characterizing resuspension?
4. Does the wind tunnel methodology adequately account for the effects of small-scale variations in surface cover and surface roughness, including turbulence variations on a small scale?
5. Is it true that roughness of the surface may act to dam or retard rather than to release surface particles in unidirectional wind flow? If so, how can this equipment accurately account for this reality?
6. Is the sampling period appropriate for wind resuspension at Rocky Flats? Is the supply of suspendable material being depleted well before a test is over? Does this artificially affect the results of the experiments (e.g., fictitiously low average resuspension rate because some sampling was performed when there was no material left to resuspend)?
7. How well does the wind tunnel reproduce actual meteorological conditions expected during high winds at Rocky Flats? Are there any field validation data to demonstrate this?
8. Does the wind tunnel realistically and adequately account for vertical wind velocity and variations in it?
9. High winds at Rocky Flats involve rapid fluctuations in wind speed, wind direction, and turbulence. How important are these effects to resuspension? Does the wind tunnel reproduce these effects adequately for meeting the goals of the project?
10. How effective is the wind tunnel at resuspending particulates of different sizes? Does the wind tunnel have a high efficiency for particles of small, medium, and large size? Here "efficiency" means how well the equipment mimics actual conditions in the external environment.
11. If the effectiveness of the wind tunnel at reproducing resuspension is good at various particle sizes, is it good at different wind speeds? Since particles of

Technical Review: Wind Tunnel-Based Characterization of Wind Resuspension for Development of Radioactive Soil Action Levels at Rocky Flats

different sizes have their own specific thresholds for resuspension and transport, does this equipment detect the thresholds accurately?

12. Is the particulate sampling being performed to appropriately capture the dust that is resuspended during the wind tunnel tests (to include isokineticity and the design of sampling inlets)?
13. Is the recurring process of deposition and resuspension being adequately treated by the wind tunnel? If the process is not fully treated, does this mean that the wind tunnel results will tend to over-predict or under-predict resuspension rates?
14. What method has been used or should be used to verify the sampling efficiency of the wind tunnel?
15. While the wind tunnel results show increases in airborne dust release rates as wind speed increases, intake of air by humans is activity-dependent, not wind-speed dependent. How can this be taken into account in using data from the wind tunnel?
16. Are the increases in air concentrations associated with increasing wind speeds as determined by the wind tunnel realistic and reasonable?

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